WHAT IS CLAIMED IS:

1. A write line structure for a magnetic memory device having a magnetic field sensitive memory cell, comprising:

a write conductor having a front surface adjacent the memory cell, a back surface and two sides surfaces;

a cladding layer adjacent the back surface, the two sides surfaces and a portion of the front surface of the write conductor, the cladding layer including a layer of magnetic material.

2. The write line structure of claim 1, further comprising a barrier layer between the write conductor and the layer of magnetic material.

3. The write line structure of claim 1, wherein the cladding layer adjacent the front surface of the write conductor forms two pole pieces adjacent to the front surface of the write conductor.

4. The write line structure of claim 3, wherein the pole pieces of the cladding layer are spaced from each other by a distance less than a width of the front surface of the write conductor.

5. The write line structure of claim 3, wherein the magnetic memory cell is positioned between the pole pieces adjacent the front surface of the write conductor.

6. The write line structure of claim 3, wherein the pole pieces are positioned between the front surface of the write conductor and the magnetic memory cell.

7. The write line structure of claim 6, wherein the magnetic memory cell has a width greater than the spacing between the pole pieces.

8. The write line structure of claim 7, wherein the magnetic memory cell is spaced from the pole pieces.

9. The write line structure of claim 7, wherein the magnetic memory cell is in contact with the pole pieces.

10. The write line structure of claim 1, wherein the cladding layer has a thickness in the range of 1 to 50 nm.

11. The write line structure of claim 1, wherein the cladding layer has a thickness in the range of 5 to 15 nm.

12. The write line structure of claim 1, wherein the magnetic material is selected from the group consisting of NiFe, CoFe, Co, Fe, FeN, CoZrNb, CoTaNb, and CoHfNb.

13. The write line structure of claim 1, wherein the memory cell is a spin dependant tunneling device.

14. The write line structure of claim 1, wherein the memory cell is a spin valve device.

15. The write line structure of claim 1, wherein the memory cell is a giant magnetoresistive device.

16. A write line structure for a magnetic memory cell, comprising:

a write conductor having a front surface facing the memory cell, a back surface and two sides surfaces, the write conductor having a first width;

a cladding layer disposed adjacent a portion of the front surface of the write conductor, the cladding layer terminating at first and second poles adjacent

the front surface of the write conductor, the first and second polls separated from each other by a second width; and

a data storage layer operatively positioned adjacent the cladding layer, the data storage layer having a third width;

wherein the second width is less than the first width.

17. The write line structure of claim 16, wherein the second width is greater than the third width.

18. The write line structure of claim 16, wherein the second width is less than the third width.

19. The write line structure of claim 16, wherein the cladding layer includes a layer of magnetic material.

20. The write line structure of claim 16, wherein the cladding layer is further disposed adjacent the back surface and two sides surfaces of the write conductor.

21. The write line structure of claim 16, wherein the poles are tapered.

22. A write conductor layout structure for a magnetic memory cell, comprising:

a first conductor having a first width;

a second conductor having a second width;

a data storage layer operatively positioned between the first conductor and the second conductor and having a first layer width in a first direction and a second layer width in a second direction, the first and second conductors crossing the data storage layer in substantially the first and second directions, respectively;

a first cladding layer disposed about the first conductor and terminating at a first set of poles between the first conductor and the data storage layer, the first set of poles separated by a first spacing; and

a second cladding layer disposed about the second conductor and terminating at a second set of poles between the second conductor and the data storage layer, the second set of poles separated by a second spacing;

wherein the first spacing between the first set of poles is less than the first width of the first conductor and is less than the second layer width of the data storage layer.

23. The write conductor layout structure of claim 22, wherein the second spacing between the second set of poles is less than the second width of the second conductor and is less than the first layer width of the data storage layer.

24. The write conductor layout structure of claim 22, wherein a selected one of the first direction or the second direction is co-linear with an easy axis of the data storage layer.

25. The write conductor layout structure of claim 22, wherein the data storage layer is a magnetoelectric device selected from the group consisting of a spin dependent tunneling device, a spin valve device, and a giant magnetoresistive device.

26. The write conductor layout structure of claim 22, wherein the first and second directions are substantially orthogonal to each other such that the first conductor and the second conductor cross the data storage layer in substantially orthogonal relation to each other.

27. A method for concentrating a magnetic field in a sense layer of a magnetic memory cell, comprising:

forming a cladding layer on a write conductor having a front surface, a back surface and two sides surfaces, the cladding including a layer of magnetic material disposed adjacent the back, side and front surfaces of the write conductor, the cladding layer terminating at first and second poles adjacent the front surface of the write conductor; and

placing a data storage layer adjacent the first and second poles of the cladding.

28. The method of claim 27, wherein the data storage layer is positioned between the first and second poles.

29. The method of claim 27, wherein the first and second poles are positioned between the front surface of the write conductor and the data storage layer.

30. The method of claim 29, wherein the poles are separated from each other by a distance less than a width of the data storage layer.

31. A method for forming a write line structure for a magnetic memory device, the method comprising the steps of:

fabricating an assembly of cladded conductors within a matrix of dielectric material, the conductors having ferromagnetic cladding on a bottom surface and two side surfaces of the conductors;

planarizing an upper surface of the assembly of cladded conductors;

depositing a layer of ferromagnetic material on the planarized upper surface of the assembly of conductors;

depositing a layer of a first dielectric material over the layer of ferromagnetic material;

patterning the ferromagnetic material and first dielectric material by removing the ferromagnetic material and first dielectric material between the cladded conductors;

depositing a layer of a second dielectric material over the patterned ferromagnetic material and first dielectric material;

planarizing the layers of the first and second dielectric materials;

patterning the first and second dielectric materials by preferentially etching the first dielectric material to leave only the second dielectric material between the cladded conductors;

depositing a layer of a third dielectric material over the patterned second dielectric material;

forming a via through the third dielectric material and ferromagnetic material to each of the conductors in the assembly, thereby leaving ferromagnetic pole extensions over the upper surface of the cladded conductors;

32. The method for forming a write line structure for a magnetic memory device of claim 31, wherein the step of fabricating an assembly of cladded conductors employs damascene processing.

33. The method for forming a write line structure for a magnetic memory device of claim 31, wherein photolithographic and etch processes are used to remove the ferromagnetic material and first dielectric material between the cladded conductors.

34. The method for forming a write line structure for a magnetic memory device of claim 31, wherein the step of forming a vias comprises a highly anisotropic etch to remove the third and second dielectric materials only in the vertical dimension.

35. The method for forming a write line structure for a magnetic memory device of claim 31, wherein the via is formed with a width which is less than a minimum feature size of a lithography process used to form the write line structure.

36. The method for forming a write line structure for a magnetic memory device of claim 31, further comprising the steps of:

depositing a layer of a fourth dielectric material to fill the vias; and

planarizing the pole extensions, second dielectric material and fourth dielectric material.

37. The method for forming a write line structure for a magnetic memory device of claim 31, further comprising the steps of:

removing the remaining dielectric remaining materials.

38. The method for forming a write line structure for a magnetic memory device of claim 37, wherein the remaining dielectric materials are removed by etching.

39. The method for forming a write line structure for a magnetic memory device of claim 36, further comprising the steps of:

forming a magnetic memory cell over the cladded conductors.

40. The method for forming a write line structure for a magnetic memory device of claim 39, wherein the memory cell has a magnetic sense layer in direct contact with the pole extensions.

41. The method for forming a write line structure for a magnetic memory device of claim 39, wherein the memory cell has a magnetic sense layer physically separated from the pole extensions by an intervening layer.

42. The method for forming a write line structure for a magnetic memory device of claim 37, further comprising the steps of:

forming a magnetic memory cell over the cladded conductors.

43. The method for forming a write line structure for a magnetic memory device of claim 42, wherein the memory cell has a magnetic sense layer in direct contact with the pole extensions.

44. The method for forming a write line structure for a magnetic memory device of claim 42, wherein the memory cell has a magnetic sense layer physically separated from the pole extensions by an intervening layer.

45. The method for forming a write line structure for a magnetic memory device of claim 31, wherein the thickness of the ferromagnetic material on the upper surface is in the range of 1 to 50 nm.